	Document ID	Issue Date	Pages	Title	Current OR
1	US 20040057268 A1	20040325	28	Data reproduction device	365/45
2	US 20040051753 A1	20040318	310	Method of identifying printing cartridge characteristics with capacitive sensors	347/19
3	US 20040023183 A1	20040205	29	System and methods for dental treatment planning	433/24
4	US 20040008262 A1	20040115	320	Utilization of color transformation effects in photographs	348/207.2
5	US 20040004651 A1	20040108	301	Printing cartridge with a data-carrying integrated circuit device	347/86
6	US 20040003199 A1	20040101	12	Memory interface with fractional addressing	711/220
7	US 20030189579 A1	20031009	20	Adaptive enlarging and/or sharpening of a digital image	345/660
8	US 20030128883 A1	20030710	104	Method and apparatus for encoding and decoding an orientation interpolator	382/243
9	US 20030128215 A1	20030710	105	Method and apparatus for encoding and decoding position interpolator	345/473
10	US 20030093279 A1	20030515	44	System for bandwidth extension of narrow-band speech	704/265
11	US 20030093278 A1	20030515	40	Method of bandwidth extension for narrow-band speech	704/265
12	US 20030076907 A1	20030424	22	Recursive resampling digital filter structure for demodulating 3G wireless signals	375/350
13	US 20020180748 A1	20021205	43	Methods and apparatus for rendering images using 3D warping techniques	345/582
14	US 20020171660 A1	20021121	23	Block sampling based method and apparatus for texture synthesis	345/582
15	US 20020064746 A1	20020530	35	Tooth path treatment plan	433/24
16	US 20020042038 A1	20020411	30	Systems and methods for dental treatment planning	433/24
17	US 20020033854 A1	20020321	309	Printing cartridge with pressure sensor array identification	347/17
18	US 20020030713 A1	20020314	308	Printing cartridge with two dimensional code identification	347/19
19	US 20010037351 A1	20011101	16	Sample rate conversion method and apparat	708/313
20	US 20010002310 A1	20010531	48	Clinician review of an orthodontic treatment plan and appliance	433/24
21	US 6707937 B1	20040316	25	Interpolation of edge portions of a digital image	382/162
22	US 6702417 B2	20040309	289	Printing cartridge with capacitive sensor identification	347/19

	Current XRef	Inventor	Image Doc. Displayed
1		Kanaoka, Toshikazu et al.	US 20040057268
2		Silverbrook, Kia	US 20040051753
3	705/2	Miller, Ross J. et al.	US 20040023183
4	348/222.1; 348/231.3; 348/231.7	Silverbrook, Kia et al.	US 20040008262
5		Silverbrook, Kia	US 20040004651
6	711/219	May, Philip E. et al.	US 20040003199
7		Pope, David R.	US 20030189579
8	382/238	Kim, Do-kyoon et al.	US 20030128883
9	345/419	Kim, Do-kyoon et al.	US 20030128215
10		Malah, David et al.	US 20030093279
11		Malah, David	US 20030093278
12		Harris, Frederic Joel	US 20030076907
13		Popescu, Voicu et al.	US 20020180748
14		Luo, Jiebo et al.	US 20020171660
15		Muhammad, Chishti et al.	US 20020064746
16	433/215	Miller, Ross J. et al.	US 20020042038
17	347/19; 347/5	Silverbrook, Kia	US 20020033854
18	347/5	Silverbrook, Kia	US 20020030713
19		Hellberg, Richar	US 20010037351
20	433/213	Chishti, Muhammad et	US 20010002310
21	345/589	Sobel, Arthur et al.	US 6707937
22	347/86; 399/12	Silverbrook, Kia	US 6702417

	Document ID	Issue Date	Pages	Title	Current OR
23	US 6687393 B1	20040203	12	Efficient methods and apparatus for resampling three dimensional datasets	382/131
24	US 6665454 B1	20031216	304	Dot adjacency compensation in optical storage systems using ink dots	382/299
25	US 6644771 B1	20031111	292	Printing cartridge with radio frequency identification	347/19
26	US 6636216 B1	20031021	292	Digital image warping system	345/427
27	US 6618117 B2	20030909	290	Image sensing apparatus including a microcontroller	355/18
28	US 6602070 B2	20030805		Systems and methods for dental treatment planning	433/24
29	US 6573940 B1	20030603	31	Sample rate converters for video signals	348/441
30	US 6565181 B2	20030520	291	Printing cartridge with switch array identification	347/19
31	US 6563448 B1	20030513	18	Flexible sample rate converter for multimedia digital-to-analog conversion in a wireless telephone	341/143
32	US 6556193 B1	20030429	41	De-interlacing video images using patch-based processing	345/418
33	US 6549828 B1	20030415	27	Aircraft based infrared mapping system for earth based resources	701/1
34	US 6547364 B2	20030415	282	Printing cartridge with an integrated circuit device	347/19

	Current XRef	Inventor	Image Doc. Displayed
23	345/424; 345/427; 345/620; 378/11; 378/15; 378/21; 378/901; 382/132; 382/154; 382/282; 382/285; 600/425; 600/437	Skinner, Jr., John V.	US 6687393
24	345/596; 345/698; 358/1.7; 358/1.8; 358/448; 358/453; 382/267; 382/274; 382/282	Silverbrook, Kia et al.	US 6665454
25	347/6	Silverbrook, Kia	US 6644771
26	345/646	Silverbrook, Kia et al.	US 6636216
27	348/207.99	Silverbrook, Kia	US 6618117
28	433/213	Miller, Ross J. et al.	
29	348/625; 348/663	Yang, Feng	US 6573940
30	347/214; 347/86; 399/12	Silverbrook, Kia	US 6565181
31	341/144	Fontaine, Paul H.	US 6563448
32	348/452; 382/261	Auld, David et al.	US 6556193
33	348/143; 701/10; 701/4	Garrot, Jr., Donald Jerome et al.	US 6549828
34	347/86	Silverbrook, Kia	US 6547364

	Document ID	Issue Date	Pages	Title	Current OR
35	US 6542645 B1	20030401	307	Adaptive tracking of dots in optical storage system using ink dots	382/254
36	US 6501507 B1	20021231	14	Multimode interpolation filter as for a TV receiver	348/441
37	US 6496546 B1	20021217	17	Software-defined transceiver for a wireless telecommunications system	375/316
38	US 6476863 B1	20021105	266	Image transformation means including user interface	348/231.9
39	US 6462682 B2	20021008	16	Sample rate conversion method and apparat	341/61
40	US 6459495 B1	20021001	288	Dot center tracking in optical storage systems using ink dots	358/520
41	US 6446007 B1	20020903	19	Method for controlled-amplitude prestack time migration of seismic data	702/14
42	US 6442525 B1	20020827	287	System for authenticating physical objects	705/1
43	US 6431669 B1	20020813	293	Method and apparatus for information storage in a portable print roll	347/2
44	US 6430234 B1	20020806	7	Method and apparatus for performing phase detection and timing recovery for a vestigial sideband receiver	375/321
45	US 6426749 B1	20020730	23	Method and apparatus for mapping reflectance while illuminating volume data in a rendering pipeline	345/424
46	US 6416154 B1	20020709	288	Printing cartridge with two dimensional code identification	347/19
47	US 6415054 B1	20020702	288	Target detection for dot region alignment in optical storage systems using ink dots	382/233

	Current XRef	Inventor	Image Doc. Displayed
35	235/437; 382/309	Silverbrook, Kia et al.	US 6542645
36	348/440.1; 348/443; 348/445; 348/448; 348/450; 348/453	Canfield, Barth Alan	US 6501507
37	375/321	Allpress, Stephen Alan et	US 6496546
38		Silverbrook, Kia	US 6476863
39	708/313	Hellberg, Richar	US 6462682
40		Silverbrook, Kia	US 6459495
41	703/5	Finn, Christopher J. et	US 6446007
42	235/379; 235/380; 235/382; 348/441; 348/460; 348/552; 380/30; 705/51; 705/52; 705/64; 705/67; 705/71; 713/169; 713/180	Silverbrook, Kia et al.	US 6442525
43	358/296	Silverbrook, Kia	US 6431669
44	348/726	Perlow, Randall Bret	US 6430234
45	345/426	Knittel, James M. et al.	US 6426749
46	347/14	Silverbrook, Kia	US 6416154
47		Silverbrook, Kia et al.	US 6415054

	Document ID	Issue Date	Pages	Title	Current OR
48	US 6411333 B1	20020625	42	Format conversion using patch-based filtering	348/441
49	US 6411296 B1	20020625	24	Method and apparatus for applying modulated lighting to volume data in a	345/424
50	US 6404429 B1	20020611	24	Method for modulating volume samples with gradient magnitude vectors and step	345/426
51	US 6392706 B1	20020521	10	Apparatus and method of moving picture format conversion	348/458
52	US 6377916 B1	20020423	26	Multiband harmonic transform coder	704/208
53	US 6369816 B1	20020409	24	Method for modulating volume samples using gradient magnitudes and complex functions over a range of values	345/424
54	US 6362869 B1	20020326	298	Authentication system for camera print rolls	355/18
55	US 6362868 B1	20020326	286	Print media roll and ink replaceable cartridge	355/18
56	US 6356715 B1	20020312	292	Prints remaining indicating for camera with variable length print capability	396/284
57	US 6356265 B1	20020312	24	Method and apparatus for modulating lighting with gradient magnitudes of volume data in a rendering pipeline	345/426
58	US 6342885 B1	20020129	25	Method and apparatus for illuminating volume data in a rendering pipeline	345/424
59	US 6327000 B1	20011204	41	Efficient image scaling for scan rate conversion	348/441
60	US 6318994 B1	20011120		Tooth path treatment plan	433/24
61	US 6317192 B1	20011113		Utilization of image tiling effects in photographs	355/18
62	US 6315200 B1	20011113		Encoded data card reading system	235/454

	Current XRef	Inventor	Image Doc. Displayed
48	348/445; 348/448; 348/458; 348/581	Auld, David et al.	US 6411333
49		Knittel, James M. et al.	US 6411296
50		Knittel, James M.	US 6404429
51	348/446; 348/448	Sugiyama, Kenji	US 6392706
52	704/230; 704/265	Hardwick, John C.	US 6377916
53	345/426	Knittel, James M. et al.	US 6369816
54	347/101; 347/19	Silverbrook, Kia	US 6362869
55	347/86; 355/72; 399/12	Silverbrook, Kia	US 6362868
56	347/101; 396/429; 396/515	Silverbrook, Kia	US 6356715
57	345/424	Knittel, James M. et al.	US 6356265
58		Knittel, James M. et al.	US 6342885
59	348/445; 348/448; 348/458; 348/581	Auld, David et al.	US 6327000
60	433/213	Chishti, Muhammad Ziaullah Khan et al.	
61	347/2; 348/222.1; 396/429	Silverbrook, Kia et al.	
62	235/462.01; 235/462.1; 235/462.24; 235/470	Silverbrook, Kia et al.	

	Document ID	Issue Date	Pages	Title	Current OR
63	US 6292251 B1	20010918		Method and apparatus for sequential exposure printing of ultra high resolution digital images using multiple sub-image generation and a programmable	355/32
64	US 6256366 B1	20010703		Apparatus and method for reconstruction of volumetric images in a computed tomography system using sementation of	378/4
65	US 6256365 B1	20010703		Apparatus and method for reconstruction of images in a computed tomography system using oblique slices	378/4
66	US 6217165 B1	20010417		Ink and media cartridge with axial ink chambers	347/86
67	US 6201849 B1	20010313	20	Apparatus and method for reconstruction of volumetric images in a helical scanning cone-beam computed tomography system	378/4
68	US 6191820 B1	20010220		Device and method for converting aspect ratio of video signal	348/445
69	US 6141671 A	20001031		Asynchronous digital sample rate converter	708/313
70	US 6014143 A	20000111		Ray transform method for a fast perspective view volume rendering	345/424
71	US 5974108 A	19991026		X-ray CT scanning apparatus	378/4
72	US 5949695 A	19990907		Interpolator using a plurality of polynomial equations and associated methods	708/290
73	US 5920654 A	19990706		Image processing system that includes discrimination of an interpolation direction	382/270
74	US 5878356 A	19990302		Aircraft based infrared mapping system for earth based resources	701/1
75	US 5859712 A	19990112		Method and circuit for correcting distance between sensors in image reading apparatus having a plurality of line sensors	358/504
76	US 5847711 A	19981208		Apparatus and method for parallel and perspective real-time volume visualization	345/424
77	US 5844663 A	19981201		Method and apparatus for sequential exposure printing of ultra high resolution digital images using multiple multiple sub-image generation and a programmable	355/32
78	US 5793379 A	19980811		Method and apparatus for scaling images having a plurality of scan lines of pixel data	345/606
79	US 5774601 A	19980630		System and method for adaptive interpolation of image data	382/298
80	US 5760781 A	19980602		Apparatus and method for real-time volume visualization	345/424

	Current XRef	Inventor	Image Doc. Displayed
63	349/77	Holley, Steven E. et al.	
64	378/17; 378/901	Lai, Ching-Ming	
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66		Silverbrook, Kia	
67	378/15; 378/901	Lai, Ching-Ming	US 6201849
68	348/581; 348/704	Kang, Kyung Jin et al.	
69		Adams, Robert W. et al.	
70	345/421; 345/427	Naqvi, Hasan Shahzad et al.	
71	378/15; 378/901	Taguchi, Katsuyuki et al.	
72	332/103; 708/270	Snell, James Leroy	
73	382/300	Someya, Jun et al.	
74	348/144; 701/4	Garrot, Jr., Donald Jerome et al.	
75	358/514; 358/524; 358/525	Kim, Eun-jin	
76		Kaufman, Arie E. et al.	
77	345/501; 358/1.1	Holley, Steven E. et al.	
78	345/428; 382/298	Lapidous, Eugene	
79	358/1.9	Mahmoodi, Abolghassem B.	
80	345/502; 345/505	Kaufman, Arie E. et al.	

	Document ID	Issue Date	Pages	Title	Current OR
81	US 5744742 A	19980428		Parametric signal modeling musical synthesizer	84/623
82	US 5727086 A	19980310		Device and method for picture processing including contraction of toned image	382/232
83	US 5686960 A	19971111		Image input device having optical deflection elements for capturing multiple sub-images	348/218.1
84	US 5666299 A	19970909		Asynchronous digital sample rate converter	708/300
85	US 5596692 A	19970121		Computer graphics	345/443
86	US 5587711 A	19961224		Method and system for reconstructing quantized signals	341/144
87	US 5581517 A	19961203	70	Method and apparatus for focus control of transmit and receive beamformer systems	367/138
88	US 5550936 A	19960827		Image processing system	382/263
89	US 5506693 A	19960409		Addressing mechanism for interfacing spatially defined imagery data with sequential memory	358/444
90	US 5475628 A	19951212		Asynchronous digital sample rate converter	708/313
91	US 5471411 A	19951128		Interpolation filter with reduced set of filter coefficients	708/300
92	US 5469222 A	19951121		Non-linear pixel interpolator function for video and graphic processing	348/580
93	US 5442406 A	19950815	82	Wide screen television	348/588
94	US 5422827 A	19950606		Integrated video scaling and sharpening filter	702/190
95	US 5387910 A	19950207		Signal processor	341/61
96	US 5384904 A	19950124		Image scaling using real scale factors	345/668

	Current XRef	Inventor	Image Doc. Displayed
81	708/290; 708/313; 84/604; 84/626; 84/661; 84/DIG.9	Lindemann, Eric et al.	
82	358/448; 358/451; 358/528; 382/298; 382/299	Yoshida, Masayasu	
83	348/335; 382/284	Sussman, Michael et al.	
84	708/290; 708/313	Adams, Robert W. et al.	
85		Martin, Philip D. et al.	
86	341/143	Williams, Lance J. et al.	
87	367/11; 367/7	Gee, Albert et al.	US 5581517
88	348/252; 348/625; 382/266	Someya, Jun et al.	
89	345/502; 345/572; 348/458; 358/500	Koshak, Richard D.	
90		Adams, Robert W. et al.	
91	708/313	Adams, Robert W. et al.	
92	348/458; 348/581	Sprague, David L.	
93	348/445; 348/565; 348/913	Altmanshofer, Robert D. et al.	US 5442406
94	700/29	Niehaus, Jeffrey A.	
95	341/144	Medan, Yoav et al.	
96		Sprague, David L. et al.	

	Document ID	Issue Date	Pages	Title	Current OR
97	US 5351087 A	19940927	30	Two stage interpolation system	348/441
98	US 5335296 A	19940802		Process for high speed rescaling of binary images	382/298
99	US 5331346 A	19940719		Approximating sample rate conversion system	348/441
100	US 5313567 A	19940517		Arrangement for determining and displaying volumetric data in an imaging system	345/424
101	US 5309484 A	19940503		Method and apparatus for asynchronous timing recovery using interpolation filter	375/354
102	US 5225787 A	19930706		Sampling frequency converter including a sigma-delta modulator	327/113
103	US 5202670 A	19930413		Image processing apparatus	345/671
104	US 5199046 A	19930330		First and second digital rate converter synchronization device and method	375/222
105	US 5008752 A	19910416		Digital image interpolator with multiple interpolation algorithms	348/581
106	US 4991010 A	19910205		Dual-mode image interpolation filter operable in a first mode for storing interpolation coefficients and in a second mode for effecting television standards	348/443
107	US 4989221 A	19910129		Sample rate converter	375/222
108	US 4779144 A	19881018		Image storage using separately scanned luminance-detail and narrowband color-component variables	386/31
109	US 4756008 A	19880705		Digitized quadrature phase shift keying modulator	375/281
110	US 4745462 A	19880517		Image storage using separately scanned color component variables	348/717
111	US 4740832 A	19880426		Image storage using separately scanned luminance and chrominance variables	348/717

	Current XRef	Inventor	Image Doc. Displayed
97	348/445; 348/581; 708/290	Christopher, Todd J. et al.	US 5351087
98	345/663; 345/667; 382/113	Larkin, Ross M. et al.	
99	341/61; 348/445; 708/313	Shields, Jerome D. et al.	
100	345/419; 345/420; 345/643	Civanlar, M. Reha et al.	
101	327/141; 327/91; 375/234; 375/355	McLane, Peter J. et al.	
102	327/553	Therssen, Dieter E. M.	
103	345/606; 358/451; 382/299	Oha, Shinichi	
104	341/61; 370/545; 375/354	Ling, Fuyun	
105	358/451; 358/462	Van Nostrand, Lance	
106	708/313	Hailey, Keith R. et al.	
107	370/290; 379/406.08	Qureshi, Shahid U. H. et al.	
108	348/427.1; 386/9	Dischert, Robert A. et al.	
109	332/104	Yagi, Kazuo et al.	
110	345/550; 345/554; 348/718	Dischert, Robert A. et al.	
111	345/550; 345/554; 348/472	Sprague, David L. et al.	

	Document ID	Issue Date	Pages	Title	Current OR
112	US 4736239 A	19880405		Image storage using separately scanned wideband and narrowband variables	348/717
113	US 4694407 A	19870915		Fractal generation, as for video graphic displays	345/441
114	US 4578812 A	19860325		Digital image processing by hardware using cubic convolution interpolation	382/300
115	JP 11195116 A	19990721		METHOD FOR CLEARING AND RE-SAMPLING IMAGE	
116	JP 09237335 A	19970909		SAMPLING RATE CONVERSION SYSTEM USING DIGITAL DIFFERENTIAL ANALYZER	

	Current XRef	Inventor	Image Doc. Displayed
112		Sprague, David L. et al.	
113	345/440; 382/278; 708/420	Ogden, Joan M.	
114	348/441; 348/704	Yui, Yoshio	
115		MEEUSSEN, DIRK et al.	
116		CHEN, CHIH KANG et al.	